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Sequence Range: 1 to 4500

10 20 30 40 50 60  
CACTCGCTGATTGGTCGCTCGCTCGCGCGGTCTCCTGGGTGACGGGAACGCGGTAGCCTGC  
GTGAGCGACTAACCAGCGACGAGCGCGCCAGAGGACCCACTGCCCTTGCGCCATCGGACG  
H S L I G R C S R G L L G D G N A V A C>

70 80 90 100 110 120  
TTGGTGGAGACCGGGTGC GCCTGCGTACTTCATAGTTCGCGTAGCGGCTCGAGCGTGGAG  
AACCACCTCTGGCCACGCGGACGCATGAAGTATCAAGCGCATCGCCGAGCTCGCACCTC  
L V E T G C A C V L H S S R S G S S V E>

130 140 150 160 170 180  
ATGAAGCGTATTTTCTCACTGCTAGAAAAGACTTGGCTTGGCGCACCAATACAGTTTGCC  
TACTTCGCATAAAAGAGTGACGATCTTTTCTGAACCGAACC GCGTGGTTATGTCAAACGG  
M K R I F S L L E K T W L G A P I Q F A>

190 200 210 220 230 240  
TGGCAAAAAACATCAGGAAACTACCTTGCAGTAACAGGAGCTGATTATATTGTGAAAATC  
ACCGTTTTTTGTAGTCCTTTGATGGAACGTCATTGTCCTCGACTAATATAACACTTTTAG  
W Q K T S G N Y L A V T G A D Y I V K I>

250 260 270 280 290 300  
TTTGATCGCCATGGTCAAAAAAGAAGTGAAATTAACCTTACCTGGTAACCTGTGTTGCCATG  
AAACTAGCGGTACCAGTTTTTTCTTCACTTTAATTGAATGGACCATTGACACAACGGTAC  
F D R H G Q K R S E I N L P G N C V A M>

310 320 330 340 350 360  
GATTGGGATAAAGATGGAGATGTCCTAGCAGTGATTGCTGAGAAATCTAGCTGCATTTAT  
CTAACCTATTTCTACCTCTACAGGATCGTCACTAACGACTCTTTAGATCGACGTAAATA  
D W D K D G D V L A V I A E K S S C I Y>

370 380 390 400 410 420  
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GAAACCCTACGGTTGTGTTTATTCTGGTCGGTCAATCTGTTACCGTACTCCCTAGTTTAC  
L W D A N T N K T S Q L D N G M R D Q M>

430 440 450 460 470 480  
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AGAAAGGAAGAAACAGTTTTTCAACCTTCAAAGGACCGACAACCTTGACAATTTCCCTTTA  
S F L L W S K V G S F L A V G T V K G N>

490 500 510 520 530 540  
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AACSATAAATATTAGTAGTCTGTAGAGCTTTCTAAGGACAGGAACCTTTTGTATGATTC  
L X I Y N H Q T S R K I P V L G K H T K>

FIGURE 1 (Page 1 of 9)

550 560 570 580 590 600  
AGAATCACTTGTGGATGTTGGAATGCAGAAAATCTGCTGCTTTAGGTGGTGAAGATAAA  
TCTTAGTGAACACCTACAACCTTACGTCTTTTAGACGRACGAAATCCACCACTTCTATTT  
R I T C G C W N A E N L X A L G G E D K>

610 620 630 640 650 660  
ATGATTACAGTTAGTAATCAGGAAGGTGACACGATAAGACAGACACAAGTGAGATCAGAG  
TACTAATGTCAATCATTAGTCCTTCCACTGTGCTATTCTGTCTGTGTTCACTCTAGTCTC  
M I T V S N Q E G D T I R Q T Q V R S E>

670 680 690 700 710 720  
CCTAKCAACATGCAGTTTTTCTTGATGAAGATGGATGACCGAACCTCTGCTGCTGAAAGC  
GGATMGTGTACGTCAAAAAGAACTACTTCTACCTACTGGCTTGGAGACGACGACTTTCG  
P X N M Q F F L M K M D D R T S A A E S>

730 740 750 760 770 780  
ATGATAAGTGTGGTGCTTGGCAAGAAAACCTTTGTTTTTTTAAATCTGAATGAACCAGAT  
TACTATTACACCACGAACCGTTCTTTTGAAACAAAAAAATTTAGACTTACTTGGTCTA  
M I S V V L G K K T L F F L N L N E P D>

790 800 810 820 830 840  
AACCCAGCTGATCTTGAATTTTCAGCAGGACTTTGGCAACATTGTCTGCTATAATTGGTAT  
TTGGGTCGACTAGAACTTAAAGTCGTCCTGAAACCGTTGTAACAGACGATATTAACCATA  
N P A D L E F Q Q D F G N I V C Y N W Y>

850 860 870 880 890 900  
GGTGATGGCCGCATCATGATTGGTTTTTCATGTGGACATTTTGTGGTCATTTCTACTCAT  
CCACTACCGGCGTAGTACTAACCACAAAAGTACACCTGTAAACACCAGTAAAGATGAGTA  
G D G R I M I G F S C G H F V V I S T H>

910 920 930 940 950 960  
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TGACCTCTCGAACCAGTTCTCTATAAAGTCCGAGCATTGGTATTTCTATTAGATTGGTCG  
T G E L G Q E I F Q A R N H K D N L T S>

970 980 990 1000 1010 1020  
ATTGCAGTATCACAGACTCTTAACAAAAGTTGCTACATGTGGAGATAACTGCATTAAAATC  
TAACGTCATAGTGTCTGAGAATTGTTTCAACGATGTACACCTCTATTGACGTAATTTTAG  
I A V S Q T L N K V A T C G D N C I K I>

1030 1040 1050 1060 1070 1080  
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GTTCTGAACCAACTGAATTTTCTGTACATACAATATGAGTTGGACCTACTCCTTTTATTT  
Q D L V D L K D M Y V I L N L D E E N K>

FIGURE 1 (Page 2 of 9)

1090 1100 1110 1120 1130 1140  
GGATTGGGTACCTTGTCTGGACTGATGATGGCCAGTTGCTAGCACTCTCTACCCAAAGG  
CCTAACCCATGGAACAGGACCTGACTACTACCGGTCAACGATCGTGAGAGATGGGTTTCC  
G L G T L S W T D D G Q L L A L S T Q R>

1150 1160 1170 1180 1190 1200  
GGCTCACTTCATGTTTTCTTGACCAAGCTTCCCATACTTGGGGATGCCTGCAGCACAAGG  
CCGAGTGAAGTACAAAAGGACTGGTTCTGAAGGGTATGAACCCCTACGGACGTCGTGTTCC  
G S L H V F L T K L P I L G D A C S T R>

1210 1220 1230 1240 1250 1260  
ATTGCCTATCTCACCTCCCTCCTTGAAGTCACCGTAGCCAACCCTGTTGAAGGAGAGCTA  
TAACGGATAGAGTGGAGGGAGGAACTTCAGTGGCATCGGTTGGGACAACCTCCTCTCGAT  
I A Y L T S L L E V T V A N P V E G E L>

1270 1280 1290 1300 1310 1320  
CCAATCACAGTTTCTGTTGATGTGGAACCCAACTTTGTGGCAGTAGGTCTTTATCATCTG  
GGTTAGTGTCAAAGACAACCTACACCTTGGGGTTGAAACACCGTCATCCAGAAATAGTAGAC  
P I T V S V D V E P N F V A V G L Y H L>

1330 1340 1350 1360 1370 1380  
GCTGTAGGAATGAATAATCGAGCTTGGTTTTATGTCCTTGGAGAAAATGCTGTGAAAAAA  
CGACATCCTTACTTATTAGCTCGAACCAAAATACAGGAACCTCTTTTACGACACTTTTTT  
A V G M N N R A W F Y V L G E N A V K K>

1390 1400 1410 1420 1430 1440  
TTGAAAGATATGGAGTATCTGGGAACAGTAGCCAGTATTTGCCTTCATTCTGACTATGCT  
AACTTTCTATACCTCATAGACCTTGTCTATCGGTCATAAACGGAAGTAAGACTGATACGA  
L K D M E Y L G T V A S I C L H S D Y A>

1450 1460 1470 1480 1490 1500  
GCTGCACTTTTTTGAAGGCAAAGTCCAGTTACATTTGATAGAAAAGCGAAATCTTGGATGCT  
CGACGTGAAAAACTTCCGTTTCAGGTCAATGTAAACTATCTTTCGCTTTAGAACCTACGA  
A A L F E G K V Q L H L I E S E I L D A>

1510 1520 1530 1540 1550 1560  
CAAGAAGAACGTGAGACTCGGCTTTTCCCAGCAGTGGATGATAAGTGCCGTATCTTATGC  
GTTCTTCTTGCACTCTGAGCCGAAAAGGGTCGTCACCTACTATTACGGCATAGAATACG  
Q E E R E T R L F P A V D D K C R I L C>

1570 1580 1590 1600 1610 1620  
CATGCCTTAAGTAGTGATTTTCTCATCTATGGTACAGATACTGGTGTCGTTTCACTATTTT  
GTACGGAATTGATCACTAAAGGAGTAGATACCATGTCTATGACCACAGCAAGTCATAAAG  
H A L T S D F L I Y G T D T G V V Q Y F>

1630 1640 1650 1660 1670 1680  
TACATTGAAGACTGGCAATTCGTTAATGATTATCGACATCCTGTCAGTGTGAAAAAGATT  
ATGTAACCTTCTGACCGTTAAGCAATTACTAATAGCTGTAGGACAGTCACACTTTTTCTAA  
Y I E D W Q F V N D Y R H P V S V K K I>

1690 1700 1710 1720 1730 1740  
TTTCCCGACCCAAATGGGACCAGATTAGTTTTTCATTGATGAAAAAGTGATGGATTTGTT  
AAAGGGCTGGGTTTACCCTGGTCTAATCAAAAGTAACTACTTTTTTCACTACCTAAACAA  
F P D P N G T R L V F I D E K S D G F V>

1750 1760 1770 1780 1790 1800  
TACTGTCCAGTCAATGACGCTACCTATGAGATTCCAGATTTTTTCACCAACCATTAAGGT  
ATGACAGGTCAGTTACTGCGATGGATACTCTAAGGTCTAAAAAGTGGTTGGTAATTTCCA  
Y C P V N D A T Y E I P D F S P T I K G>

1810 1820 1830 1840 1850 1860  
GTTCTTTGGGAAAACTGGCCAATGGATAAAGGTGTATTTATTGCTTATGATGATGATAAG  
CAAGAAACCTTTTGACCGGTTACCTATTTCCACATAAATAACGAATACTACTACTATTC  
V L W E N W P M D K G V F I A Y D D D K>

1870 1880 1890 1900 1910 1920  
GTGTACACTTATGTCTTTCACAAGGACACTATACAAGGAGCCAAGGTTATTTTGGCTGGT  
CACATGTGAATACAGAAAGTGTTCCTGTGATATGTTTCCTCGGTTCCAATAAAACCGACCA  
V Y T Y V F H K D T I Q G A K V I L A G>

1930 1940 1950 1960 1970 1980  
AGCACCAAAGTTCCTTTTGCTCATAAACCTTTGCTGCTATATAATGGAGAGCTGACCTGC  
TCGTGGTTTCAAGGAAAACGAGTATTTGGAAACGACGATATATTACCTCTCGACTGGACG  
S T K V P F A H K P L L L Y N G E L T C>

1990 2000 2010 2020 2030 2040  
CAAACACAGAGTGGAAGTAAACAACATCTACCTTAGCACCCATGGCTTTCTCAGCAAC  
GTTTGTGTCTCACCTTTTCATTTGTTGTAGATGGAATCGTGGGTACCGAAAGAGTCGTTG  
Q T Q S G K V N N I Y L S T H G F L S N>

2050 2060 2070 2080 2090 2100  
TTAAAAGATASGGGGCCTGACGAACTGAGACCAATGCTGGCACACAATTTAATGCTAAAG  
AATTTTCTATSCCCCGGACTGCTTGACTCTGGTTACGACCGTGTGTTAAATTACGATTTT  
L K D X G P D E L R P M L A H N L M L K>

2110 2120 2130 2140 2150 2160  
AGGTTTTCTGATGCTTGGGAAATGTGCAGGATTCTGAATGATGAGGCTGCCTGGAATGAG  
TCCAAAAGACTACGAACCTTTACACGTCCTAAGACTTACTACTCCGACGGACCTTACTC  
R F S D A W E M C R I L N D E A A W N E>

2170 2180 2190 2200 2210 2220  
TTGGCCAGAGCTTGTCTACATCACATGGAAGTGGAGTTTGCAATCCGTGTTTATCGGAGA  
AACCGGTCTCGAACAGATGTAGTGTACCTTCACCTCAAACGTTAGGCACAAATAGCCTCT  
L A R A C L H H M E V E F A I R V Y R R>

2230 2240 2250 2260 2270 2280  
ATTGGAATGTTGGCATAGTGATGTCCTTGGAACAAATAAAGGGAATAGAGGACTACAAT  
TAACCTTTACAACCGTATCACTACAGGAACCTTGTTTATTTCCCTTATCTCCTGATGTTA  
I G N V G I V M S L E Q I K G I E D Y N>

2290 2300 2310 2320 2330 2340  
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GAAAACCGTCCTGTGGAACGGTACAAATGGTTGCTAATATTGGACCGAGTCCTGAACATG  
L L A G H L A M F T N D Y N L A Q D L Y>

2350 2360 2370 2380 2390 2400  
CTTGCATCCAGCTGTCTATTGCTGCCCTGGAGATGAGAAGGGATTTACAGCATTGGGAC  
GAACGTAGGTGCGACAGGATAACGACGGGACCTCTACTCTTCCCTAAATGTCGTAACCGTG  
L A S S C P I A A L E M R R D L Q H W D>

2410 2420 2430 2440 2450 2460  
AGTGCTCTACAACTGGCAAAGCATTTGGCCCCAGACCAGATACCTTTTATATCAAAAGAA  
TCACGAGATGTTGACCGTTTCGTAAACCGGGTCTGGTCTATGGAAAATATAGTTTTCTT  
S A L Q L A K H L A P D Q I P F I S K E>

2470 2480 2490 2500 2510 2520  
TATGCTATTTCAGCTTGAATTCGCGGGTGATTATGTAAATGCTTTGGCTCATTATGAGAAA  
ATACGATAAGTCGAACTTAAGCGCCCACTAATACATTTACGAAACCGAGTAATACTCTTT  
Y A I Q L E F A G D Y V N A L A H Y E K>

2530 2540 2550 2560 2570 2580  
GGAATAACAGGTGATAATAAGGAACATGATGAAGCTTGTCTGGCTGGAGTGGCCCAGATG  
CCTTATTGTCCACTATTATTCCTTGTAATACTTCGAACAGACCGACCTCACCGGGTCTAC  
G I T G D N K E H D E A C L A G V A Q M>

2590 2600 2610 2620 2630 2640  
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AGGTATTCTTACCCTCTGTATGCAGCTCCCAATTGGTTCGGGAGTTCGTAGGGTCGTCC  
S I R M G D I R R G V N Q A L K H P S R>

2650 2660 2670 2680 2690 2700  
GTCCTTAAAAGAGACTGTGGAGCCATATTGGAGAATATGAAGCAATTTTCAGAAGCGGCC  
CAGGAATTTTCTCTGACACCTCGGTATAACCTCTTATACTTCGTTAAAAGTCTTCGCCGG  
V L K R D C G A I L E N M K Q F S E A A>

2710 2720 2730 2740 2750 2760  
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GTTGACATACTTTTTCCAGAGATGATGCTATTTTCGTCGTAGACAAATGTAGGCGAGATTC  
Q L Y E K G L Y Y D K A A S V Y I R S K>

2770 2780 2790 2800 2810 2820  
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N W A K V G D L L P H V S S P K I H L Q>

2830 2840 2850 2860 2870 2880  
TATGCCAAAGCCAAGGAAGCAGATGGAAGATACAAAGAAGCTGTTGTAGCTTATGAAAAT  
ATACGGTTTTCGGTTTCCTTCGTCTACCTTCTATGTTTCTTCGACAACATCGAATACTTTTA  
Y A K A K E A D G R Y K E A V V A Y E N>

2890 2900 2910 2920 2930 2940  
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CGTTTTGTACACCGTTTCACATTAGGCGTAGATAGACCTAGTGGAGTTATTAGGACTTTTT  
A K Q W Q S V I R I Y L D H L N N P E K>

2950 2960 2970 2980 2990 3000  
GCTGTCAATATTGTTAGAGAGACCCAGTCTCTGGATGGAGCCAAATGGTAGCCAGGTTT  
CGACAGTTATAACAATCTCTCTGGGTCAGAGACCTACCTCGGTTTTACCATCGGTCCAAA  
A V N I V R E T Q S L D G A K M V A R F>

3010 3020 3030 3040 3050 3060  
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F L Q L G D Y G S A I Q F L V M S K C N>

3070 3080 3090 3100 3110 3120  
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TTACTTCGAAAGTGTGACCGAGTCGTTGTGTTGTTTTACCTTTAGATACGTCCTATAATAA  
N E A F T L A Q Q H N K M E I Y A D I I>

3130 3140 3150 3160 3170 3180  
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CCAAGACTTCTGTGATGATTACTTCTGTAGATTTTCGTAACGGAATATGAAACTTCCTCTT  
G S E D T T N E D Y Q S I A L Y F E G E>

3190 3200 3210 3220 3230 3240  
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K R Y L Q A G K F F L L C G Q Y S R A L>

3250 3260 3270 3280 3290 3300  
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K H F L K C P S S E D N V A I E M A I E>

3310 3320 3330 3340 3350 3360  
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TGACAACCAAGTCCGGTTTCTACTTGACGACTGGTTAGTCGACTATCTGGTAGAGGACCCC  
T V G Q A K D E L L T N Q L I D H L L G>

3370 3380 3390 3400 3410 3420  
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CTCTTGCTACCGTACGGATTCTTACGGTTCATGGACAAGGCGAACATGTACCGAGACTTC  
E N D G M P K D A K Y L F R L Y M A L K>

3430 3440 3450 3460 3470 3480  
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GTTATGGCTCTTCGACGGGTCTGACGGTAGTAGTAACGGTCTCTTCTCGTCAGACGTCCG  
Q Y R E A A Q T A I I I A R E E Q S A G>

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N Y R N A H D V L F S M Y A E L K S Q K>

3550 3560 3570 3580 3590 3600  
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TAGTTTTTAAGGGAGGCTCTACCGGTGGTTGGAGTACTAAGACGTGTCGATATATGATCAT  
I K I P S E M A T N L M I L H S Y I L V>

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TTCTAAGTACAATTTTACCTCTAGTGTACTTTCCCCGAGCGTACGAGTAAGCCCACCGG  
K I H V K N G D H M K G A R M L I R V A>

3670 3680 3690 3700 3710 3720  
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N N I S K F P S H I V P I L T S T V I E>

3730 3740 3750 3760 3770 3780  
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ACAGTGTCCCGTCCGGAATTCTTGAGACGAAAGTCGAAGCGTCGATACAATACTCCGGA  
C H R A G L K N S A F S F A A M L M R P>



3790 3800 3810 3820 3830 3840  
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CTTATGGCGTCGTTTTATCTACGGTTTATGTTTTTCTTCTAGCTCCCTTACCAGTCCTCT  
E Y R S K I D A K Y K K K I E G M V R R>

3850 3860 3870 3880 3890 3900  
CCCGATATATCTGAGATAGAAGAGGCCACGACTCCATGTCCATTCTGCAAATTTCTTCTC  
GGGCTATATAGACTCTATCTTCTCCGGTGCTGAGGTACAGGTAAGACGTTTAAAGAAGAG  
P D I S E I E E A T T P C P F C K F L L>

3910 3920 3930 3940 3950 3960  
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GGTCTCACACTTGAGGAGACAGGACCTACATTTTTGTTCATAGGGTATAACGTAACGTTGT  
P E C E L L C P G C K N S I P Y C I A T>

3970 3980 3990 4000 4010 4020  
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CCAGCTGTGTACAACCTTTCTACTGACCTGCCACACAGGTGTAACACTGAAGGGACGAGAT  
G R H M L K D D W T V C P H C D F P A L>

4030 4040 4050 4060 4070 4080  
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ATGAGTCTTAACTTCTAGTACGATTTGTGACTTTCGTGTACAGGATACACAAGTCTTTCT  
Y S E L K I M L N T E S T C P M C S E R>

4090 4100 4110 4120 4130 4140  
TTAAACGCTGCTCAGCTGAAAAAGATTTTCAGACTGTACCCAGTACCTGCGAACGGAGGAG  
AATTTGCGACGAGTCGACTTTTTCTAAAGTCTGACATGGGTCATGGACGCTTGCCTCCTC  
L N A A Q L K K I S D C T Q Y L R T E E>

4150 4160 4170 4180 4190 4200  
GAACTGTGATTGGCACGTGCAGATACAATGCTCCTGAGAAGACAGCATTTTCCACAGGAG  
CTTGACACTAACCGTGCACGTCTATGTTACGAGGACTCTTCTGTCGTAAAGGTGTCCTC  
E L>  
\_\_\_\_\_>

4210 4220 4230 4240 4250 4260  
GCTGTTTTCTCCCTGGTGGATTTAAGAGACGGTCCTTTCTGGATACAGAGAAATGAAAC  
CGACAAAGGAGGGGACCACCTAAATTCTCTGCCAGGAAAGACCTATGTCTCTTTACTTTG

4270 4280 4290 4300 4310 4320  
AACGGTGACCTCTCCAGGTGCGCACTTTCCACTTCTGTACGGTGGCAAAACGATGACATG  
TTGCCACTGGAGAGGTCCAGCCGTGAAAGGTGAAGACATGCCACCGTTTTGCTACTGTAC

4330 4340 4350 4360 4370 4380  
TAACCTTGCTGTTTATTGTACTTTGTATATTATTTCTCTTCAAAGTCTTTCTTACACAC  
ATTGGAACGACAAATAACATGAAACATATAATAAAGGAGAAGTTTCAGAAAGAATGTGTG

4390 4400 4410 4420 4430 4440  
TCTATCCTCTGCACTGTTAATAGTAACCTATGACATAATTGTAAATATTCAGCTTTTTGC  
AGATAGGAGACGTGACAATTATCATTGGATACTGTATTAACATTTATAAGTCGAAAAACG

4450 4460 4470 4480 4490 4500  
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Docket: P-IS 4367

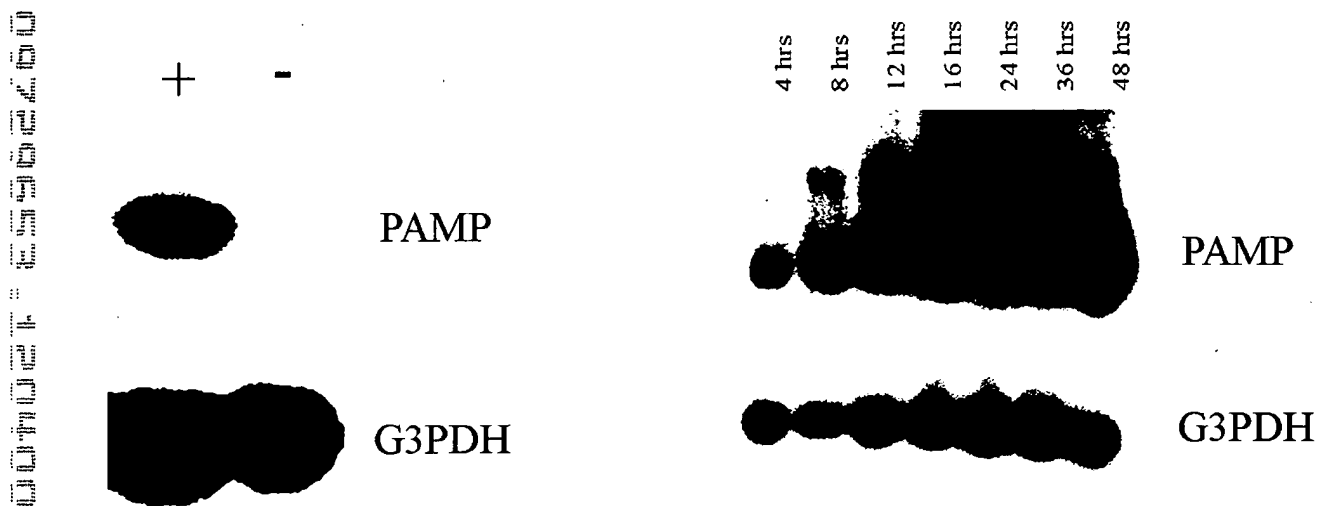


FIGURE 2

US 2007/0188000 A1

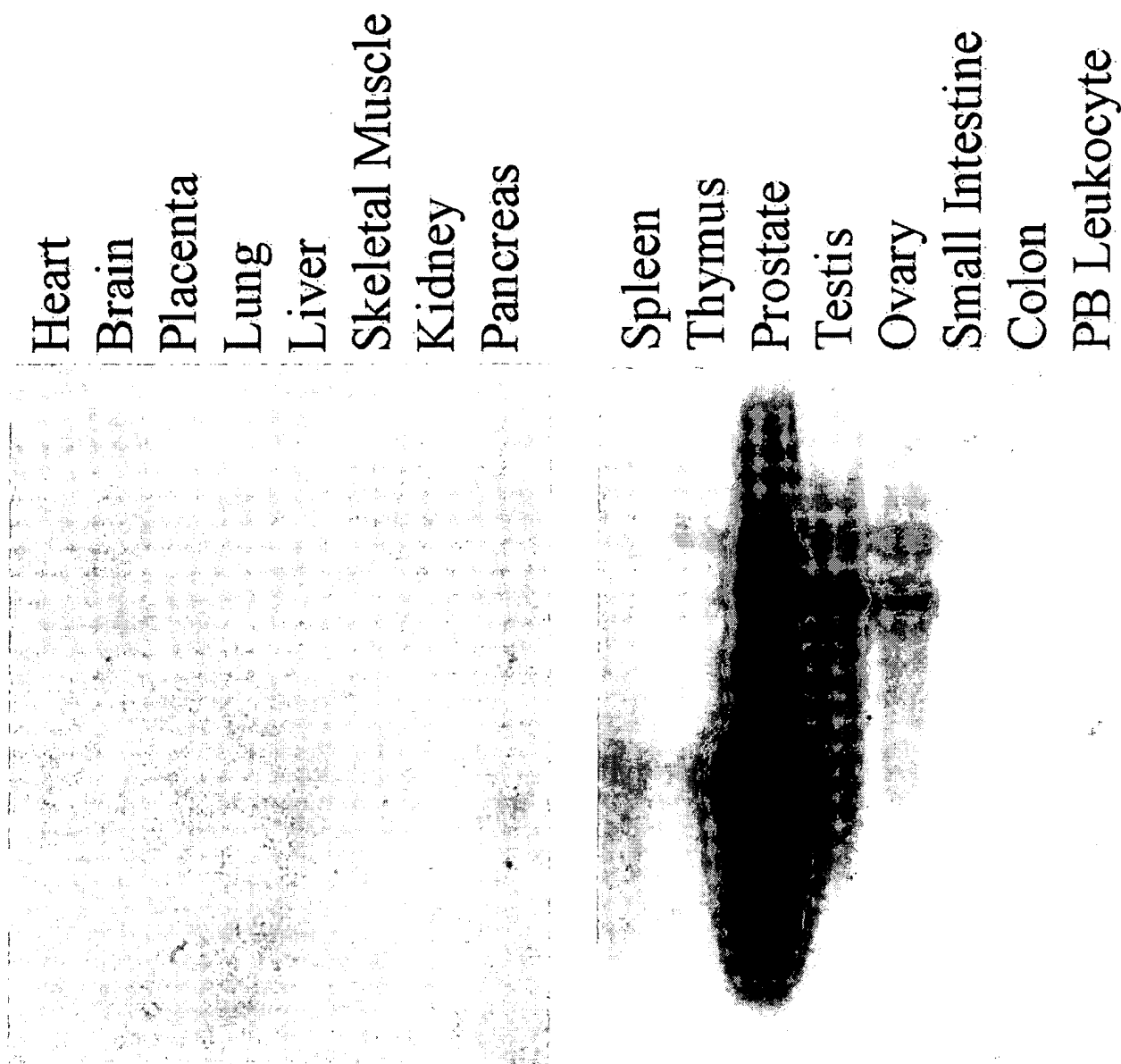


FIGURE 3

Inventor: Biaoyang Lin  
Docket No.: P-IS 4367

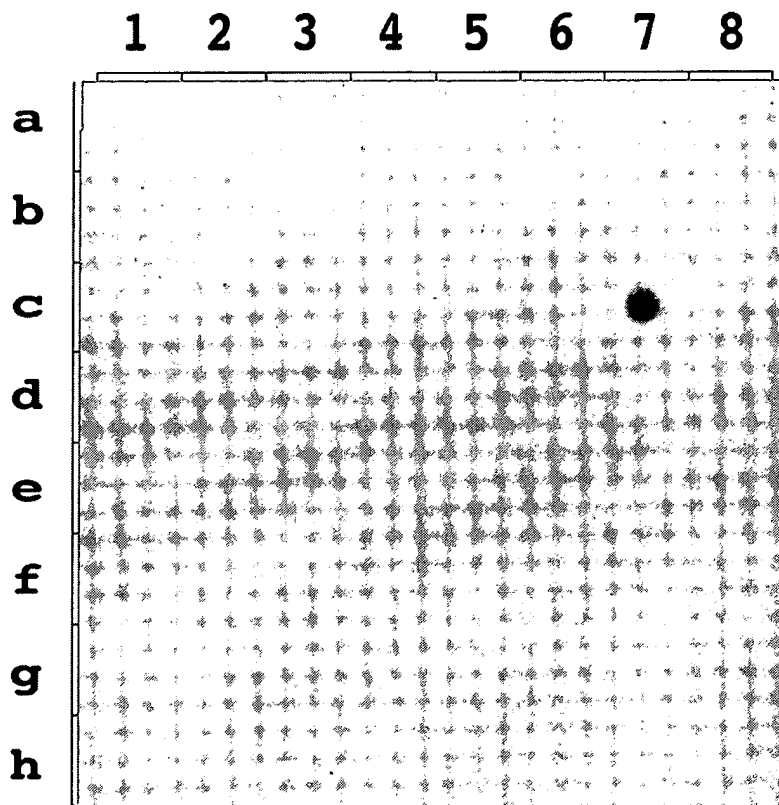


FIGURE 4

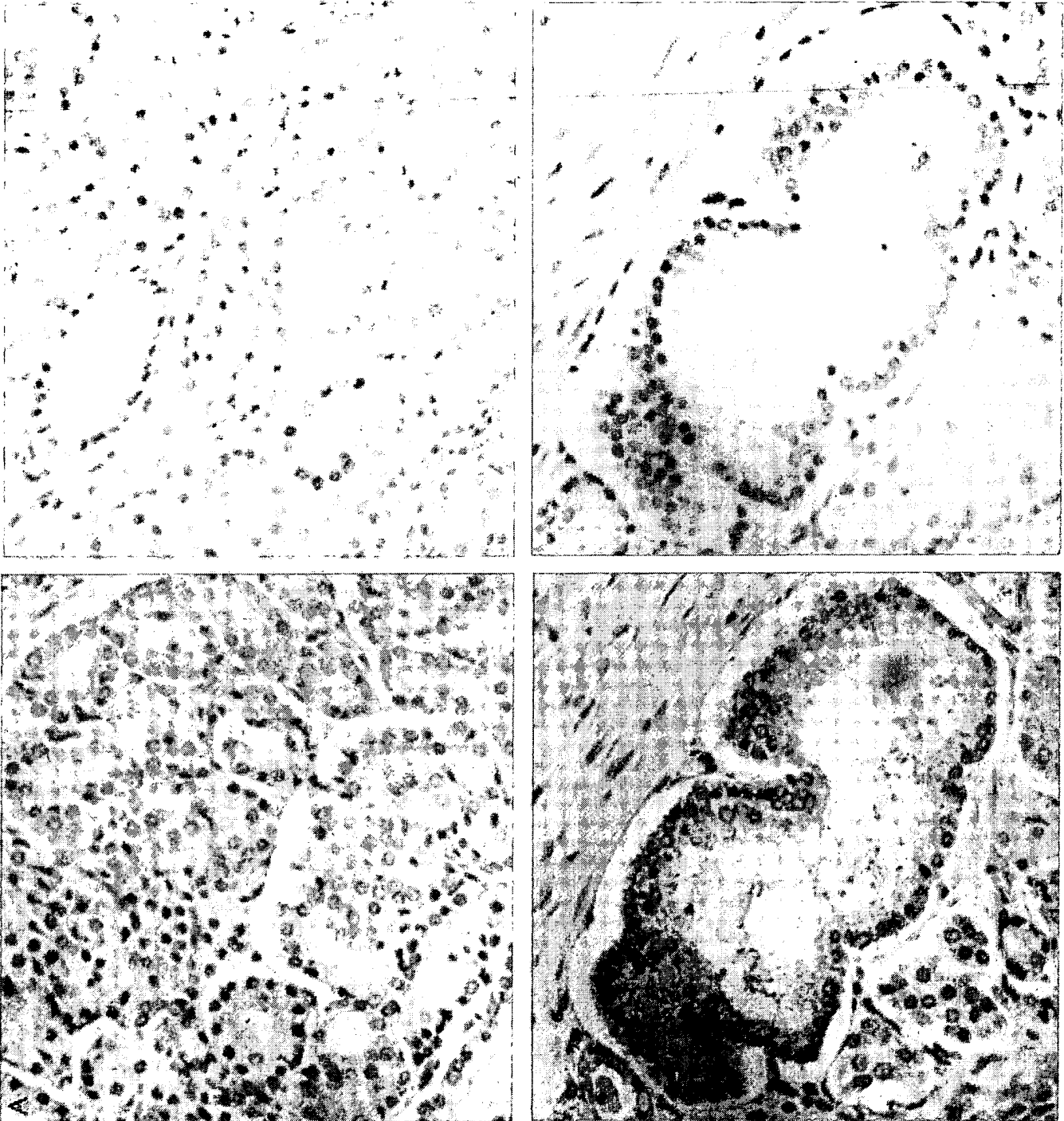


FIGURE 5